

Product Specification Sheet

**Mouse C3 protein reference serum**

**Cat # 6230-RS**

Mouse serum C3 protein reference serum

**SIZE: 1 ml**

Human Complement component 3, C3 (alternative names include acylation-stimulating protein (ASP) C3 is encoded by gene located 19p13.3-p13.2. Because C3, C4, and C5 are strikingly similar suggesting a common evolutionary origin. C3 is an acute phase reactant. Synthesis of C3, a glycoprotein, is induced during acute inflammation. The liver is the main site of synthesis, although small amounts are also produced by activated monocytes and macrophages. A single chain precursor (pro-C3) of approximately 200 kD is found intracellularly; the cDNA shows that it comprises 1,663 amino acids. This is processed by proteolytic cleavage into alpha (~115 kda) and beta subunits (~75 kda) which in the mature protein are linked by disulfide bonds. Pro-C3 contains a signal peptide of 22 amino acid residues, the beta chain (645 residues) and the alpha chain (992 residues). The 2 chains are joined by 4 arginine residues that are not present in the mature protein. Human C3 has 79% identity to mouse C3 at the nucleotide level and 77% at the amino acid level.

Human C3 concentration in normal human serum is ~ 1.25 mg/ml. Classical and alternative activation pathways of complement converge at C3 step. Activation via either pathway can result in assembly of C3-cleaving enzymes (C3 convertases) on target surfaces. Both C3 convertases cleave the C3 a-chain at peptide bond 77 resulting in production of C3a (M.W. 9083) and C3b fragments (M.W. 180,000). Released C3a peptide is one of the three complement anaphylatoxins. The nascent C3b fragment can form a covalent ester bond with target surface. This covalent attachment of C3b to target acceptors is required for continuation of complement activation.

C3 nephritic factor, an IgG antibody against complement components, is demonstrable in some cases of partial lipodystrophy. C3-deficient homozygotes developed mesangiocapillary glomerulonephritis.

**Source of Antigen and Antibodies**

Mouse serum (adult mixed sex breed) were pooled and assayed for C3 in ADI mouse C3 ELISA kit # 6230. The values (~10 ug-20 ug/ml range), lot specific, stated on the vial. Diluted mouse serum is supplied in PBS containing 0.05% azide as lyophilized powder. Store powder at -20°C for up to 6 months. Reconstitute powder in 1 ml PBS by gentle mixing at room temperature. Reconstituted C3 solution should be aliquoted and stored at -20°C or below. Stability is 3 months. Do not freeze and thaw.

**Recommended Usage**

For use in ELISA as values assigned reference C3 control. The values are assigned using ADI mouse C3 ELISA kit #6230. These values may not agree with another supplier due to differences in antibodies and assay conditions. Reference serum should be diluted according to the assay requirements.

**References:** de Bruijn MHL (1985) PNAS 82, 708-712; Alper CA (1970) J. Clin. Invest. 49, 975-1985; Ajees AA (2006) Nature 444, 221-225; Botto M (1992) PNAS 89, 1957-1961; McLean RH (1980) Humn, Hered. 30, 149-154; Muller-Eberhard HJ (1958) Adv. Immunol. 8, 1-80;

\*This product is for In vitro research use only.

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